Kyle Opperman

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Senior Frontend Engineer with 13+ years of experience building scalable web applications, design systems, and frontend architectures across fintech, logistics, and e-commerce. Strong expertise in TypeScript, Web Components, and component-driven UI development, with proven experience building and maintaining web component libraries used at scale, owning accessibility (a11y) and internationalisation (i18n) standards, and contributing to design system governance in enterprise environments. Passionate about building maintainable systems and delivering high-quality user experiences.

Skills

Languages	Typescript, JavaScript, CSS, HTML, SQL
Frameworks & Libraries	Lit, Web Components, React, Vue.js, Sass/SCSS, Next.js, Node.js, Knockout.js, Riot.js, jQuery, Web Components, RxJS, React Query, Redux, Vuex, [D3.js](#), NestJS
Testing & QA	Playwright, Cypress, Jest, Karma, Vitest, Lighthouse, Sentry
CI/CD & Cloud	Azure DevOps, AWS, GCloud, Firebase, Serverless
Build Tooling	Turborepo, Nx, Webpack, Rollup, Vite, Parcel, Turbopack. Lerna
Other	Blue Security Champion, a11y, i18n, WCAG, Backstage.io, SEO, Design Systems, Design Tokens, Phaser, Godot, Unreal Engine

Experience

Software Engineer IV, ING - Amsterdam, NL   **Oct 2024 - Present**

React, Lit, Web Components, a11y, i18n, Node.js, Backstage.io, Azure DevOps, TypeScript, Design Systems, Unit Testing, Agile/Scrum

- Developed a cross-framework UI integration layer allowing Web Components to be consumed by React and other frameworks, enabling consistent component usage across the organisation's frontend ecosystem.
- Owned accessibility (a11y) and internationalisation (i18n) standards for Web Component contributions, ensuring WCAG compliance and multi-language support across platform components.
- Designed and implemented a graph visualisation system enabling engineers to explore relationships between services, APIs, and infrastructure across the organisation.
- Built custom Backstage plugins extending the internal developer platform used by hundreds of engineers.
- Contributed improvements to the Backstage entity graph system, improving extensibility of the developer portal architecture.
- Collaborated with platform and architecture teams to design scalable developer tooling, ensuring consistent APIs, backward compatibility, and long-term maintainability.
- Led the migration of legacy developer portal functionality into a modern platform architecture.

Lead Software Engineer, Embed - Amsterdam, NL   **Jul 2023 - Oct 2024**

React, Next.js, NestJS, AWS, Webpack, Turborepo, Nx, Web Components, TypeScript, Playwright, Unit Testing, Agile/Scrum

- Architected a framework-agnostic payment SDK using Web Components and TypeScript, enabling external developers to embed checkout flows with minimal integration effort.
- Designed a white-label styling and theming system using design tokens, enabling partners to customise visual identity while preserving brand consistency and compliance requirements.
- Built scalable frontend infrastructure supporting multiple payment providers including Visa, Mastercard, Apple Pay, Google Pay, iDEAL and SEPA.
- Established end-to-end testing and CI pipelines using Playwright.
- Implemented modular component architecture with consistent APIs, enabling external developers to customise UI without breaking compliance requirements.

Lead Software Engineer, Flink - Wrocław, PL   **Apr 2021 - Jul 2023**

React, React Query, Parcel, Vite, GraphQL, Serverless, Lerna, Firebase, GCloud, TypeScript, Jest, Agile/Scrum

- Introduced micro-frontend platform architecture, enabling independent deployment across multiple product teams.
- Established shared UI component libraries and frontend standards within a monorepo architecture, enabling consistent design patterns across distributed squads.
- Mentored engineers and introduced knowledge-sharing and best-practice initiatives across the frontend guild.
- Implemented a multi-trip delivery scheme for riders, leading to a reduction of trips, faster delivery times and less pressure on rider staff.
- Developed branch management tools that allowed staff to order and return equipment, unlock their bikes electronically and view their performance metrics.

Senior Software Engineer, Sennder - Wrocław, PL   **Mar 2020 - Apr 2021**

Vue.js, Webpack, AWS, TypeScript, Unit Testing, Agile/Scrum

- Developed a range of front-end applications using Vue.js, including brokerage, discovery, and chartering systems that streamlined company operations.
- Collaborated with cross-functional teams to identify requirements, set timelines, and ensure seamless integration of developed applications with existing systems.
- Introduced DataDog, enhancing monitoring and observability capabilities.

Team Lead, Leadhome - Johannesburg, ZA   **Mar 2018 - Feb 2020**

React, GraphQL, Node.js, Styled Components, AWS, TypeScript, Jest, Agile/Scrum

- Collaborated with cross-functional teams to align technical solutions with business goals, improving stakeholder satisfaction and project delivery.
- Successfully developed and launched a custom CRM to replace the outdated Salesforce system within nine months, setting the foundation for the company's growth.
- Scaled the development team from three to over twelve members, fostering a collaborative and productive working environment.

- Oversaw the successful launch of four products and numerous iterations on each, contributing to Leadhome's rapid growth and industry disruption.

Intermediate Software Engineer, iflix - Cape Town, ZA   **Feb 2017 - Feb 2018**

Vue.js, Riot.js, Node.js, Serverless, AWS, TypeScript, Unit Testing, Agile/Scrum

- Developed and integrated serverless architecture for the majority of our planned systems, ensuring scalability, efficiency, and cost-effectiveness.
- Collaborated with third-party payment providers (CSG) to enable seamless transactions and broaden the range of available payment options for customers in diverse regions.
- Delivered end-user systems as a front-end focused developer, creating user interfaces that are intuitive, visually appealing, and easy to navigate.
- Established weekly meetings with the global web development team to address the monolithic structure created due to the startup nature of the company, streamlining processes and promoting collaboration.
- Successfully implemented unique and impactful payment solutions, contributing to iflix's expansion and customer satisfaction in the African and Asian markets.

Front End Developer, The Gemini Solution - Cape Town, ZA   **Dec 2015 - Feb 2017**

jQuery, knockout.js, D3.js, Node.js, GCloud, Firebase

- Collaborated closely with outsourced designers to set expectations and timelines for interface development, ensuring efficient project delivery and high-quality user experiences.
- Developed an innovative survey tool based on industrial psychology research and user engagement, incorporating a variety of question types from free text to interactive games.
- Created several engaging 'brain' games using the Phaser framework, providing users with a unique and enjoyable survey-taking experience.
- Utilised D3.js to render metrics and graphs for the data collected, offering insightful visualisations to help users make sense of the information gathered.

Front End Developer, Platinum Software **-** Johannesburg, ZA   **Feb 2013 - Dec 2015**

jQuery, knockout.js, Node.js, PostgresQL

- Designed and implemented visually appealing and functional user interfaces using Javascript (Knockout/jQuery), providing users with an intuitive and engaging experience.
- Configured and monitored server health, ensuring optimal performance and reliability for the company's web applications.
- Collaborated with team members to develop non-existent systems from the ground up, contributing to the establishment and growth of the company.
- Gained a broad range of skills and experience in various aspects of software development, from front-end design to back-end server management.

Personal Projects

Website - https://kayoh.dev/

- Personal website featuring web experiments and links.

Photography - https://unsplash.com/@kayoh

- Publish royalty-free photographs and volunteer to photograph art, charity, and fundraiser events, combining technical and creative skills.

Void Beneath - https://voidbeneath.itch.io/voidbeneath (Unreal engine)

- Led project management and UI/gameplay development for a game jam project, exploring Unreal Engine tools and C#.

The Quest of Helmet - https://kayoh.itch.io/helmet (Phaser3)

- Developed a short side-scroller game in 6 hours for a game jam, focusing on rapid prototyping and clean UI implementation.

Ebb & flow - https://github.com/MrOpperman/ebb-flow (Phaser2)

- Built a mini-game where players decode fish directions/movement using arrow keys, inspired by Lumosity-style games. Highlights: state management, responsive input, and Phaser 2.

Education & Courses

Formal Education

- **BSc Computer Science** (partial) | UNISA | 2014–2017
- **High School Diploma** | Abbotts College Pretoria | 2007–2011

Courses & Certifications

- **Blue Security Champions** | Secure Flag | 2025
- **Programme in Business Communication** | UNISA | 2017
- **Introduction to Internet and Web Design** | UNISA | 2013